

Mansfield Public Schools

Technology Plan 2009-2012

April 2009



Table of Contents

Preface.....	3
Acknowledgement.....	4
Vision	6
Needs Analysis.....	8
Curriculum Goals and Objectives	9
Evaluation	23
Policy Issues.....	23
Administrative Applications	24
Special Education / Support Services / Itinerant and District-wide Staff	25
Design Guidelines	266
Impact on the Environment / Sustainability.....	300
Staff Development	31
System Upgrades, Repair, and Equipment Maintenance	32
Resource Allocation Timeline.....	34
A. Capital Improvement.....	34
B. Board of Education.....	355
C. Outside Resources	36
D. Board of Education Staffing.....	377
E. Professional Development	388
F. Fiscal Services Fund	39
G. Other Related Technology Planning Steps/Activities	40
Appendicies (available at http://mansfieldct.org/schools/mms/district/techplan.htm):	
A. CSDE Educational Technology Plan Submission	
B. Connecticut Pre-kindergarten Through Grade 12 Computer Technology Competency Standards For Students	
C. The Connecticut Teacher Technology Competencies	
D. The Connecticut Teacher Technology Competency Performance Indicators	
E. The Connecticut Administrator Technology Standards	
F. Mansfield Board of Education Policy FECCA Employees Use of Computer Systems	
G. Mansfield Board of Education Policy FECCB Student Use of Computer Systems	
H. Mansfield Middle School Student Acceptable Use Policy	
I. Mansfield Student Technology Goals & Objectives PreK-8	
J. Mansfield PreK-4 Guidelines for the Safe Use of Computers and the Internet	
K. Mansfield Public Schools Copyright Guidelines	
L. Mansfield Board of Education Technology Plan Approval	
M. Computer Equipment Allocation and Design Implementation	
N. ISTE National Educational Technology (NETS) Standards	

Preface

The Mansfield Public Schools Technology Plan is a living document guiding the course of implementing educational and information technology in the preK-8 public schools. The school district has followed its blueprint for thirteen years. The vision and goals of this plan remain intact and still provide the foundation and direction for our actions. However, we acknowledge that the rapidly changing technology environment in terms of new technologies and the changing, state, local, and federal initiatives have required us to keep a flexible perspective to best take advantage of opportunities. Mansfield has been successful in the past at being able to take advantage of previous federal and state funding opportunities and one purpose of our update is prepare ourselves as these new initiatives change the educational technology landscape.

Major tasks that have been accomplished since our last revision in 2006, as a result of the plan include:

- Created a unified Information Technology Department for the Mansfield Public School District, the Regional 19 School District, and the Town of Mansfield. The combined expertise of the unified Department has been very helpful for all three entities by providing better solutions through pooled technical expertise, more efficient deployment of new technologies, quicker resolution of network needs, common interfaces for users that interact with multiple entities, and cost savings from combined purchasing quantities and shared solutions. This transition was accomplished without disrupting the existing services required by each entity such as software and hardware troubleshooting, new installations, and direct support of users' questions and needs.
- Awarded a competitive infrastructure grant in the amount of \$83,345 from the Department of Emergency Management and Homeland Security. The funds were successfully used to improve student and staff security at all four schools through network integrated door access, video surveillance, and staff ID badge security.
- Implemented a Juniper SSL/ VPN remote access solution to provide staff with entry into our network from off-site locations. The technology increases staff productivity by expanding the availability and flexibility of our electronic tools, thereby maximizing the use of our existing resources.
- Installed a new FileMaker Pro server and database that provides elementary school faculty with the ability to complete marking period grading from remote locations. Additionally the server coincided with a redesign of the progress report database to meet educational assessment goals.
- Deployed a unified wireless access control system along with expanded wireless access. Currently wireless coverage reaches all rooms in the Middle School and by June 2009 will reach most locations in the elementary schools. Wireless access provides students, staff, citizens, and guests with entry into the network through the flexibility and mobility of a wire-free connection.
- Implemented anti-SPAM technologies that dramatically decreased the amount of junk mail received by staff as well as reducing the number of false positives to better ensure legitimate e-mail reaches its destination. This improves staff productivity by focusing time on legitimate e-mails instead of junk mail.
- Added the e-mail format *firstname.lastname@mansfieldct.org* for all staff. This increases the ease with which someone can e-mail our staff. E-mail is an important means of communication between many teachers and parents.
- Installed a reliable and effective audio and video conferencing server available for both internal user and for use with outside partners. Conferencing provides an option for group collaboration without the time and resource expense of physical travel, and it increases access to experts and groups otherwise unavailable to students and staff.
- Deployed a web-based ticket system to track technology support requests and resolutions.
- Implemented QNotify communication system to send text-based information to subscribing parents and community members.
- Installed projectors and SMART Boards in the majority of our classrooms in all four schools. The implementation process included extensive professional development to support the instructional use of this new technology.

- Deployed VMware server virtualization and SAN technology to improve the reliability, flexibility, and cost-effectiveness of our server infrastructure while meeting the growing server needs of students and staff.
- Successful application for professional development E2T2 Federal mini-grants. We have used these grants to support professional development in the integration of technology into the classroom as part of Mansfield new PD strands.
- Won competitive curriculum grant for \$65,000 to establish 21st century curriculum using Web 2.0 tools with students.
- Sponsorship of UCONN 5th year Neag School of Education Interns in technology based curriculum integration projects.
- Participated in the town-wide upgrade of tapeless data backup solution.
- Upgraded major data infrastructure components to support gigabit backbone in all four schools.
- Installed seventeen SMART Document Cameras in grades 1 – 5 to support implementation of the new elementary math curriculum.
- Expanded use of Discovery Education video streaming educational resources.
- Upgraded Student Information Systems K-8. At the elementary level, converted from an older access database to a more powerful FileMaker database with both client and web-browser interface. At the middle school level, have begun conversion from SASI to PowerSchool which will also support web-browser interface.
- A renewed commitment to a collaborative model between Region 19, the Mansfield Schools, and the Town of Mansfield to share knowledge and expertise.
- A new robust training model that provides a “strand” of 7 contact hours over a three month period on a given technology topic responding to staff needs. Each year there are both fall and winter strand offerings.
- Implemented Protrax web-based software to support planning and documentation for District professional development opportunities.
- Achieved administrative efficiencies through web-based purchased services such as IEP Direct to support special education documentation and AESOP to support staff leave documentation.
- Increased use of web-based services for student activities such as Reading A-Z, Raz-kids, Study Island, RM Math, Spelling City, Brain Pop, Quia, and Zoomerang.
- Supported environmentally “green” initiatives to reduce energy consumption and waste. Initiatives have included Verdiem software for power management, virtualization to reduce physical hardware and power consumption, purchasing Federal EPA green certified computers, and transitioning to energy saving LCD monitors.
- Leveraged virtualization environment to consolidate services and software licenses such as Read Naturally which is now hosted on a single server instead of four separate servers.
- Applied for grant opportunities such as the Connecticut Online Writing Grant, the Liberty Bank Study Island Grant, and the School Security Grant. Given the difficult economic climate that we expect to see for the next few years, we are continually seeking grants to supplement funding.

In keeping with our commitment to use technology effectively for information management and distribution this document is available for downloading in electronic form from our website:

<http://mansfieldct.org/schools/mms/district/tecplan.htm>

Mansfield Public Schools
Technology Steering Committee
April 2009

The Mansfield Technology Steering Committee (2009)

Fred Baruzzi, Superintendent, Mansfield Public Schools
Jon Hand, Teacher, Grade 8, Mansfield Middle School
Donna Koropatkin, Teacher, Grade 7, Mansfield Middle School
Doug Perkins, Teacher, Grade 7, Mansfield Middle School
Melissa Szych, Grade 8, Mansfield Middle School
Jaime Russell, Information Technology Director, Mansfield Public Schools
James Griffith, Technology Coordinator, Mansfield Middle School
Jeff Cryan, Principal, Mansfield Middle School
Linda Robinson, Library Media Specialist, Mansfield Public Schools
Steve Sokoloski, Technology Coordinator, Mansfield Elementary Schools
Rachel Leclerc, Director of Special Education, Mansfield Public Schools
Monique Brown, Teacher, Kindergarten, Southeast Elementary School
James Hendricks, Teacher, Grade 3, Southeast Elementary School
Linda Duckstein, Teacher, Special Education, Annie E. Vinton School
Jennifer Zugarzo, Teacher, Spanish, Annie E. Vinton and Mansfield Middle School

Acknowledgement

On behalf of the Mansfield Public Schools we would like to take this opportunity to thank the following people for their time and effort in developing and reviewing the initial technology plan for our district. Their participation is greatly appreciated.

Sue Audette, Teacher, Mansfield Middle School
Louise Bailey, Director, Mansfield Town Library
Fred Baruzzi, Assistant Superintendent, Mansfield Public Schools
Barbara Hunter, Teacher, Mansfield Middle School
Lynette Braunhardt, Teacher, Mansfield Middle School
Monique Brown, Teacher, Grade 1, Southeast Elementary School
Nancy Cantara, Teacher, Grade 4, Goodwin Elementary School
Jeff Cryan, Assistant Principal, Mansfield Middle School
Kathleen Dinan, Teacher, Grade 3, Vinton Elementary School
Norma Fisher-Doiron, Principal, Southeast Elementary School
Carole Iwanicki, Principal, Mansfield Middle School
Paul Kobulnicky, Director of UCONN Libraries
Ann Kouatly, Librarian, Windham High School
Jim Palmer, Principal, Vinton Elementary School
Edwin Passmore
Carol Phelps, Teacher, Grade 4, Vinton Elementary School
Terry Plum, Librarian, UCONN Library
Patricia Proctor, Teacher, Grade 5, Mansfield Middle School
Anne Rash, Principal, Goodwin Elementary School
Chauncy Rucker, Professor of Education, UCONN
Peter Salesses, Director Library/Media Center, E.O. Smith High School
Richard Sawyer, Tenant Services Manager, AETNA
Gordon Schimmel, Superintendent, Mansfield Public Schools
Judy Shay, Reading/Language Arts Consultant, Mansfield Public Schools
Bill Simpson, Chairperson Mansfield Board of Education
Cheryl Stevens, Library Instructional Assistant, Goodwin Elementary School
Laura Toffenetti, Teacher, Grade 4, Goodwin Elementary School
Dale Truman, Mansfield Board of Education Member
Mary Truxaw, Teacher, Grade 5, Mansfield Middle School
Michael Young, Associate Professor, School of Education, UCONN

Vision

Mansfield Public Schools Technology Plan

This technology plan serves as a touchstone for continued technology planning in the Mansfield Public Schools. Planning is an ongoing process, and this document will require continuous monitoring and evaluation. This plan reflects our commitment to the use of technology for student and teacher learning. The realization of this vision will largely depend upon the level of Mansfield's on-going financial commitment to technological development.

It is essential that all students in the Mansfield Public Schools learn to use technologies as powerful, versatile tools for enhancing their learning and creative expression across disciplines. We will promote excellence among students and teachers in the following ways:

Goal 1: Students will become a community of learners using technology.

Students will focus on meaningful knowledge and learning by connecting the classroom to the world via computer-based telecommunications, distance learning, and other interactive media. Encouraging the participation of parents, businesses, schools and colleges, libraries, and other community partners in the learning process will strengthen cooperation among students, teachers, and the community at large. Students will obtain wisdom and judgment in using technology, preparing them for responsible, productive citizenship and further learning.

Goal 2: Students, teachers, and staff members will become information literate.

Technology has been a catalyst in increasing the amount of information available and the way that information is accessed. Schools will help students, teachers, and staff develop strategies to effectively access, evaluate, and synthesize information resources. This is the basis for authentic learning in modern education.

Goal 3: Teachers and staff members will become active learners using technology.

Working together, teachers and staff will continually extend their professional skills and knowledge as described in the Connecticut Teacher and Administrator Standards (see online Appendices B, C, & D). Through readings, course work, conferences, and telecommunications with colleagues, they will gain access to information in their fields and identify new strategies to improve student learning. A corps of experts from education and the private sector will help train and support teachers using technology in their classrooms.

Goal 4: Instruction will engage students by addressing their goals and interests.

Schools will encourage an atmosphere that celebrates student work. Students will acquire deep understanding of important subject matter by using technology to access vast repositories of information. Schools, transformed into technology-based learning centers, will offer equitable access to students, their families and the community at large.

Goal 5: Technology will enhance administrative efficiency.

Mansfield educators and staff members will increase internal school communication and professional dialogue, thereby decreasing isolation. Effective use of human resources in the administration of pupils, staff, budget, and programs will increase efficiency. Technology will reduce mundane clerical tasks, allowing teachers to focus on educating children. Technology will facilitate coordination among the Mansfield Public Schools and other town agencies, Region 19, and other educational institutions.

Goal 6: Technology will improve assessment.

The use of technology will enhance the assessment of student learning and instructional programs. Using computers to collect and analyze student work will afford timely and meaningful evaluation, as assessment becomes an on-going part of the instructional process.

Consistent with these key elements of our vision, the Mansfield Public Schools endorse the recently articulated state and national standards and guidelines for educational uses of technology developed by federal and state government agencies and commissions. Taken together with locally developed policies, they serve as foundation documents to our plan. These documents are included as Appendices. In keeping with our desire to model best uses of technology these Appendices are available online at the following web page: <http://mansfieldct.org/schools/mms/district/tecplan.htm>

The documents include:

- A. CSDE Educational Technology Plan Submission
- B. Connecticut Pre-kindergarten Through Grade 12 Computer Technology Competency Standards For Students
- C. The Connecticut Teacher Technology Competencies
- D. The Connecticut Teacher Technology Competency Performance Indicators
- E. The Connecticut Administrator Technology Standards
- F. Mansfield Board of Education Policy FECCA Employees Use of Computer Systems
- G. Mansfield Board of Education Policy FECCB Student Use of Computer Systems
- H. Mansfield Middle School Student Acceptable Use Policy
- I. Mansfield Student Technology Goals & Objectives PreK-8
- J. Mansfield PreK-4 Guidelines for the Safe Use of Computers and the Internet
- K. Mansfield Public Schools Copyright Guidelines
- L. Mansfield Board of Education Technology Plan Approval
- M. Computer Equipment Allocation and Design Implementation
- N. National Education Technology Standards for Students, Teachers, and Administrators

Needs Analysis

The Mansfield Public Schools have developed a long-term systematic plan to ensure that district resources are devoted to technology as an instructional and administrative tool. An initial needs assessment with community and staff input was done as the foundation. As part of the plan, processes and structures have been developed to ensure that the district continually looks forward to the rapidly changing technology environment, as well as it reflects back successes and challenges of implementing the plan. As such, continuing needs assessment is part of the plan's evaluation process. Responsibility for evaluating progress towards the plan's goals rests with the Steering Committee, which has representation from staff and administration. As part of formulating yearly budget recommendations, the Steering Committee evaluates current needs, progress to date, and adjusts the plan as necessary.

Representatives from the Steering Committee also represent the District on the Town Wide Area Network Team (WAN Team). The group works together and with outside consultants on a variety of technology concerns related to the Town WAN and the District's computer systems. The group coordinates consistent approaches to technology problems and tries to look ahead at future needs of the whole network. It has taken on the responsibility for establishing purchasing guidelines for basic hardware and software, reviewing performance of file servers and integrated network services, and security concerns.

The District Technology Committee will continue to collect, review, and analyze feedback from staff to evaluate the Technology Plan and improve professional development opportunities. Techniques for this include annual online surveys, conversations at staff meetings, and periodic reviews of the entire Technology Plan.

Curriculum Goals and Objectives

Strand	Competency Standard	CT Pre-K-4 Computer Technology Performance Standards For Students	Mansfield Technology Goals & Objectives Grades PreK-4
1	Basic Operations and Concepts (End of Grade 2)	<p>1.1A Use input devices (e.g., mouse, keyboard, remote control) and output devices (e.g., monitor, printer) to successfully operate computers, VCRs, audio tapes, and other technologies.</p> <p>1.2A Use a variety of media and technology resources for directed and independent learning activities.</p> <p>1.3A Communicate about technology using developmentally appropriate and accurate terminology.</p> <p>1.4A Use developmentally appropriate multimedia resources (e.g., interactive books, educational software, elementary multimedia encyclopedias) to support learning.</p> <p>1.5A Discuss common uses of technology in daily life and the advantages and disadvantages those uses provide.</p>	<p><i>By the end of Grade 2 a student will:</i></p> <p>Be able to identify the main parts of a computer system (monitor, keyboard, mouse, printer).</p> <p>Be able to start up and shut down a computer with teacher assistance.</p> <p>Be able to locate and use the important parts of a standard keyboard. (Enter/Return key, space bar, shift key, backspace key, delete key, arrow keys, number keys, letter keys)</p> <p>Use appropriate techniques for handling of computer parts and accessories to ensure correct functioning and to prolong the working life of media and equipment (insert floppy disks correctly, handle CD-ROM discs by edges, load and eject floppy disks and CD-ROM discs, return media to protective containers, retrieve paper from printers with care, insert and remove headphones, adjust appropriate volume and screen controls).</p> <p>Use the mouse to open, close, and navigate within an application (one click to select, double click to open, drag to highlight, drag and drop, drag to select an area, use left button / right button when appropriate).</p> <p>Use the electronic resources of the library media center to select and locate books in the school collection, with direct teacher support. <i>(Also aligns with Strands 4 & 6)</i></p>

Strand	Competency Standard	CT Pre-K-4 Computer Technology Performance Standards For Students	Mansfield Technology Goals & Objectives Grades PreK-4
1	Basic Operations and Concepts (End of Grade 4)	<p>1.1A Use input devices (e.g., mouse, keyboard, remote control) and output devices (e.g., monitor, printer) to successfully operate computers, VCRs, audio tapes, and other technologies.</p> <p>1.2A Use a variety of media and technology resources for directed and independent learning activities.</p> <p>1.3A Communicate about technology using developmentally appropriate and accurate terminology.</p> <p>1.4A Use developmentally appropriate multimedia resources (e.g., interactive books, educational software, elementary multimedia encyclopedias) to support learning.</p> <p>1.5A Discuss common uses of technology in daily life and the advantages and disadvantages those uses provide.</p>	<p><i>By the end of Grade 4 a student will:</i></p> <p>Use the electronic resources of the library to select and locate books in the school collection, identify books in the collections of other Mansfield schools, and identify material in media formats other than print, with minimal teacher assistance. <i>(Also aligns with Strands 4 & 6)</i></p> <p>Be familiar with proper finger placement on the keyboard and beginning keyboard techniques (shift key for capitals and symbols, tab to indent, number/caps lock, identify home row keys, anchor fingers to home row, use two hands and home row anchor as a starting point, proper posture and body placement, techniques for avoiding repetitive strain injury and common double key combinations: CTRL-P, CTRL-Q, CTRL-S).</p> <p>Be able to describe a computer program as a set of instructions given to a computer to carry out tasks, identify a "bug" as a incorrect instruction in a program and identify a "virus" as a program designed to disrupt normal computer functions.</p> <p>Be able to correctly logon and logoff to the school network as a student user, and be able to describe the basic functions of the network (works with wiring and file server, allows school Internet /email connection, allows shared printers, allows common storage areas).</p> <p>Be able to describe the common uses of and concerns for using electronic mail.</p> <p>Be able to operate the common features of an Internet browser (recognize the address bar, enter in an address, use the forward, back, stop, search, and favorite buttons, click on links inside the browser page).</p> <p>Be able describe the work and home uses of common productivity software (word processing, spreadsheets, databases, presentation software, and Internet browsers) with teacher assistance.</p> <p>Be able to identify the uses of common computer peripheral devices (printer, digital camera, scanner, LCD display) and use as appropriate with direct teacher supervision.</p> <p>Be able to locate, save, and retrieve a file from a floppy disk, or a network folder, with teacher prompting</p> <p>Be able to use the common features of the computer operating system (select an icon with mouse, select options from pull down menus, resize and relocate program windows, use side and bottom scroll bars a to move within a program window, close windows, recognize when multiple programs are active, make choices in common dialog boxes: print, save as, use common shortcut icons and menus selections: open, close, save, save as, print, copy, paste, select all, and to find help within a program) with teacher assistance.</p> <p>➤ Be able to use the common tools of a painting / graphics program (paint fill tools, color selection, line tools, shape tools, freehand drawing, and text objects).</p>

Strand	Competency Standard	CT Pre-K-4 Computer Technology Performance Standards For Students	Mansfield Technology Goals & Objectives Grades PreK-4
2	Social, Ethical and Human Issues	<p>2.1A Practice responsible use of technology systems and software.</p> <p>2.2A Work cooperatively and collaboratively with peers, family members, and others when using technology in the classroom.</p> <p>2.3A Demonstrate positive social and ethical behaviors when using technology.</p> <p>2.4A Demonstrate an understanding of the appropriate and inappropriate use of technology.</p>	<p><i>By the end of Grade 2 a student will:</i></p> <p>Follow established school procedures for the operation of computers and associated peripheral devices (shut down when done, report nonfunctioning hardware and software to adults, use care in handling media, use Alphasmart keyboards as directed by the teacher).</p> <p>Work cooperatively and share materials when appropriate.</p> <p>Show respect for other members of the learning community by following established school procedures for working around computers (clean up area when done, put materials away, hang up headphones, log off computer).</p> <p>Follow established procedures for use of programs (print in color only when directed, print only the number of copies directed by the teacher, select and use the programs as directed, select and enter user names as directed).</p> <p>Recognize when school procedures about technology are not followed and report it to an adult.</p> <p><i>By the end of Grade 4 a student will:</i></p> <p>Follow established school procedures to keep passwords confidential.</p> <p>Describe the Internet as a worldwide network of computers that share information.</p> <p>Follow established school procedures to protect the work and files of others.</p> <p>Follow established school guidelines for safe use of the Internet (keep personal information safe, do not share personal information about others or yourself, no chatting or instant messaging, no downloading).</p> <p>Be able to describe precautions that should be followed when using the Internet at home (tell an adult if concerned, don't respond to strangers, avoid advertising enticements, follow home rules for use of computer).</p> <p>Be able to describe the dangers of computer viruses, the common ways that computers get infected and common procedures for avoiding computer viruses, with teacher prompting.</p> <p>Apply, with assistance, established age appropriate footnote and bibliographic standards for giving credit for information or ideas used.</p> <p>Be able to restate in age appropriate vocabulary the basic tenants of copyright, intellectual property laws and the concept of ownership of ideas and information, with minimal teacher prompting.</p> <p>Be able to state in age appropriate vocabulary the legal and ethical limitations of using and copying information in all media with teacher assistance.</p> <p>Have appropriate online behavior, including interacting with other individuals on social networking websites and in chat rooms and cyber bullying awareness and response.</p>

Strand	Competency Standard	CT Pre-K-4 Computer Technology Performance Standards For Students	Mansfield Technology Goals & Objectives Grades PreK-4
3	Technology Productivity Tools	<p>3.1A Use a variety of media and technology resources for directed and independent learning activities</p> <p>3.2A Create developmentally appropriate multimedia products with support from teachers, family members, or student partners</p> <p>3.3A Use technology resources (e.g., puzzles, logical thinking programs, writing tools, digital cameras, drawing tools) for problem solving, communication, and illustration of thoughts, ideas, and stories</p> <p>3.4A Use appropriate software (writing tools, hypermedia, drawing tools, etc.) to organize and present ideas</p>	<p><i>By the end of Grade 2 a student will:</i></p> <p>Be able to word process a short piece of writing with teacher assistance.</p> <p>Be able to use a variety of drill and practice software to support basic skills acquisition.</p> <p>Be able to use a variety of software that supports content area curriculum.</p> <p><i>By the end of Grade 4 a student will:</i></p> <p>Be able to word process a piece of writing that incorporates common word processing techniques such as changes in font size, font style, spell checking, saving to disk, printing, including a graphic , centering, and justifying with teacher assistance.</p> <p>Be able to perform a simple concept search with an Internet search engine with teacher assistance.</p> <p>Strengthen and reinforce their knowledge and skills in content areas through the use of classroom lessons that integrate technology.</p> <p>Incorporate technology into a research project or unit investigation.</p> <p>Participate in learning activities that incorporate multimedia.</p> <p>Be able to use an Internet search engine to locate information.</p> <p>Use sage appropriate spreadsheet / graphing software to analyze and manipulate data with teacher assistance.</p> <p>Use technology as appropriate to support learning in Art. Music, and World Language.</p>

Strand	Competency Standard	CT Pre-K-4 Computer Technology Performance Standards For Students	Mansfield Technology Goals & Objectives Grades Pre-K-4
4	Technology Communication Tools	<p>4.1A Use technology resources (e.g., puzzles, logical thinking programs, writing tools, digital cameras, drawing tools) for problem solving, communication, and illustration of thoughts, ideas and stories.</p> <p>4.2A Gather information and communicate with others using telecommunications, with support from teachers, family members or student partners.</p>	<p><i>By the end of Grade 2 a student will:</i> Use the electronic resources of the library media center to select and locate books in the school collection, with direct teacher support. <i>(Also aligns with Strands 1,5 & 6)</i></p> <p><i>By the end of Grade 4 a student will:</i> Be able to use telecommunications under direct teacher supervision to seek additional information when appropriate to an information task. Be able to operate the common features of an Internet browser (recognize the address bar, enter in an address, use the forward, back, stop, search, and favorite buttons, click on links inside the browser page). <i>(Also aligns with Strand 1)</i> Be able to use an Internet search engine to locate information. <i>(Also aligns with Strands 1,5 & 6)</i> Have appropriate online behavior, including interacting with other individuals on social networking websites and in chat rooms and cyber bullying awareness and response. Participate in collaborative projects using web-based resources.</p>

Strand	Competency Standard	CT Pre-K-4 Computer Technology Performance Standards For Students	Mansfield Technology Goals & Objectives Grades PreK-4
5	Technology Research Tools	<p>5.1A Use technology resources (e.g., puzzles, logical thinking programs, writing tools, digital cameras, drawing tools) for problem solving, communication, and illustration of thoughts, ideas and stories.</p> <p>5.2A Use Internet resources and other electronic information resources with assistance.</p> <p>5.3A Describe ways technology can be used to organize and reorganize information.</p> <p>5.4A Perform simple key word searches.</p> <p>5.5A Use simple menus to locate information from electronic media.</p> <p>5.6A Select and use appropriate tools and technology resources, with assistance, to accomplish a variety of tasks and solve problems.</p>	<p><i>By the end of Grade 2 a student will:</i></p> <p>Be able to formulate and restate (with age appropriate concepts and vocabulary), an information question related to a topic of interest or assignment, with teacher assistance.</p> <p>When encountering an information task, be able to identify existing knowledge, and areas where more information is needed.</p> <p>Be able to use alphabetizing skills to locate information with teacher assistance.</p> <p>Within electronic media (such as a reference CD-ROM, or on-line database) be able to use simple menus to locate information, with teacher assistance.</p> <p>Be able to identify the kinds and location of information sources (books, reference works, video and audio media, periodicals, on-line data bases, on-line periodicals) available in the school library with teacher assistance.</p> <p>Distinguish, with assistance, between fiction and nonfiction.</p> <p>Use age-appropriate library / information vocabulary with minimum teacher prompting.</p> <p>Be able to perform simple information searches (single concept topics, major keywords,) with teacher assistance.</p> <p><i>By the end of Grade 4 a student will:</i></p> <p>Be able to restate the scope of an assigned information task (the timeline, the audience, and the type of presentation) with minimum prompting.</p> <p>Be able to formulate, with teacher direction, a plan for identifying possible information sources and criteria for selecting the most appropriate sources for completing an information task.</p> <p>Be able to locate and select, with teacher assistance, appropriate information resources to complete an information task. <i>(Also aligns with Strand 6)</i></p> <p>Be able to extract information from multiple information sources to complete an age appropriate information task. <i>(Also aligns with Strand 6)</i></p> <p>Be able to identify a variety of information media formats. <i>(Also aligns with Strand 6)</i></p> <p>Be able to use telecommunications under direct teacher supervision to seek additional information when appropriate to the information task.</p> <p>Be able to use a teacher created rubric or similar device to judge the completeness and relevance of information gathered to complete an information task.</p> <p>Be able to organize ideas and conclusions using (software when appropriate) with teacher assistance.</p> <p>Be able to create clear and meaningful age appropriate presentations of ideas in print (and other media and multimedia as appropriate) with teacher assistance.</p> <p>Participate in collaborative projects using web-based resources for research.</p>

Strand	Competency Standard	CT Pre-K-8 Computer Technology Performance Standards For Students	Mansfield Technology Goals & Objectives Grades PreK-4
6	Technology Problem-Solving and Decision-Making Tools	<p>6.1A Use technology resources (e.g., puzzles, logical thinking programs, writing tools, digital cameras, drawing tools) for problem solving, communication, and illustration of thoughts, ideas and stories.</p> <p>6.2A Select appropriate resources from a variety of media formats, understanding that information is stored and accessed in different ways.</p>	<p><i>By the end of Grade 4 a student will:</i> Strengthen and reinforce problem solving and thinking skills through classroom and Enrichment program activities that feature the use of software and peripherals that feature logical thinking and problem solving.</p> <p><i>The following objectives appear under other Strands but are repeated here for clarity:</i> Be able to locate and select, with teacher assistance, appropriate information resources to complete an information task. <i>(Also aligns with Strand 4)</i> Be able to extract information from multiple information sources to complete an age appropriate information task. <i>(Also aligns with Strand 4)</i> Be able to Identify a variety of information media formats. <i>(Also aligns with Strand 4)</i></p>

Strand	Competency Standard	ID #	CT 5-8 Computer Technology Performance Standards For Students	Mansfield Technology Goals & Objectives Grades 5-8
1	Basic Operations and Concepts	1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9	<p>Discuss common uses of technology in daily life and the advantages and disadvantages those uses provide</p> <p>Apply strategies for identifying and solving routine hardware and software problems that occur during everyday use</p> <p>Demonstrate an understanding of concepts underlying hardware, software and connectivity, and of practical applications to learning and problem solving</p> <p>Use keyboards and other common input and output devices (including adaptive devices when necessary) efficiently and effectively</p> <p>Independently operate school computers and demonstrate ability to use the system's software and special features</p> <p>Demonstrate the ability to independently use personal productivity software to create products in a wide range of formats (newsletters, budgets, brochures, imported graphics, web pages, etc.)</p> <p>Describe general criteria used to evaluate and compare different types of computers, peripherals and other technology tools</p> <p>Demonstrate the ability to use basic features (entering information/data, editing, calculating, manipulating information, saving files) of personal productivity software (word processing, desktop publishing, spreadsheets, databases, etc.)</p> <p>With assistance, develop strategies for solving common hardware and software problems</p>	<p>Describe real world uses of electronic spreadsheets.</p> <p>Describe real world uses of graphic programs.</p> <p>Describe real world uses of telecommunications and the internet.</p> <p>Describe real world uses of multimedia.</p> <p>Describe real world uses of databases. Implement common solutions to software and hardware problems.</p> <p>Be able to demonstrate proper care of magnetic and optical media.</p> <p>Apply established footnote and bibliographic standards for giving credit for information or ideas used.</p> <p>Understand the variety of ways indexes are used as organizers for information systems.</p> <p>Type within an acceptable range of speed and accuracy.</p> <p>Show correct posture and fingering while keyboarding.</p> <p>Explain the need for proper file management.</p> <p>Save to and retrieve from a variety of electronic media.</p> <p>Demonstrate the ability to navigate through a variety of software menus to access information.</p>

Strand	Competency Standard	ID #	CT 5-8 Computer Technology Performance Standards For Students	Mansfield Technology Goals & Objectives Grades 5-8
2	Social, Ethical and Human Issues	2.1 2.2 2.3 2.4 2.5 2.6	<p>Demonstrate knowledge of current changes in information technologies and the effect those changes have on the workplace and society</p> <p>Exhibit legal and ethical behaviors when using information and technology, and discuss consequences of misuse</p> <p>Research and evaluate the accuracy, relevance , appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world problems</p> <p>Discuss basic issues related to responsible use of technology and information and describe personal consequences of inappropriate use</p> <p>Apply established citation standards for giving credit for information or ideas used from electronic resources</p> <p>Demonstrate an understanding of the concept of ownership of ideas and information by respecting and observing laws and/or guidelines for using information, hardware and networks</p>	<p>Understand and practice lifelong learning using technology with an ethical /legal context. Demonstrate responsibility in using programs and equipment without direct supervision. Differentiate among various intellectual properties and conditions of ownership or protocol (I.e., copyright, patents)</p> <p>Demonstrate critical viewing skills by selecting and analyzing media. Identify whether multimedia information is accurately presented.</p> <p>Discern stereotypes, biases, and propaganda techniques in information resources. Understand copyright laws as they relate to technology.</p> <p>Understand and avoid plagiarism.</p> <p>Recognize vandalism and discuss legal issues resulting from the misuse of technology. Properly handle and use a variety of audiovisual devices.</p> <p>Have appropriate online behavior, including interacting with other individuals on social networking websites and in chat rooms and cyber bullying awareness and response.</p>

Strand	Competency Standard	ID #	CT 5-8 Computer Technology Performance Standards For Students	Mansfield Technology Goals & Objectives Grades 5-8
3	Technology Productivity Tools	3.1	Use content-specific tools, software and simulations (e.g., environmental probes, graphing calculators, exploratory environments, Web tools) to support learning and research.	<p>Apply advanced Boolean logic principles to search techniques.</p> <p>Use data analysis software programs to understand information.</p> <p>Produce a word-processed report with a graphic.</p> <p>Edit word processing documents using advanced editing techniques.</p> <p>Move text and graphics among related programs.</p>
		3.2	Apply productivity/ multimedia tools and peripherals to support personal productivity, group collaboration and learning throughout the curriculum.	
		3.3	Use general purpose productivity tools and peripherals to support personal productivity, remedial skill deficits, and facilitate learning throughout the curriculum.	
		3.4	Use technology tools (e.g., multimedia authoring, presentation, Web tools, digital cameras, scanners) for individual and collaborative writing, communication, and publishing activities to create knowledge products for audiences inside and outside the classroom.	
		3.5	Use appropriate software (spreadsheet, database, hypermedia, etc.) to construct, organize, calculate, analyze and interpret ideas and data, and to present conclusions.	
		3.6	Create databases, spreadsheets and a variety of graphic presentations to communicate numeric and visual information using applications with varied and more sophisticated features.	

Strand	Competency Standard	ID #	CT 5-8 Computer Technology Performance Standards For Students	Mansfield Technology Goals & Objectives Grades 5-8
4	Technology Communication Tools	4.1	Design, develop, publish, and present products (e.g., Web pages, videotapes) using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom	Describe and select the most effective course of action for addressing the essential question. Frame and pose additional questions related to the completion of the task. Assess the overall effectiveness and efficiency of the search performance upon completion of the task.
		4.2	Collaborate with peers, experts, and others using telecommunications and collaborative tools to investigate curriculum-related problems, issues, and information, and to develop solutions or products for audiences inside and outside the classroom.	Use appropriate software to construct, organize, analyze, and interpret ideas and data and present conclusions. Use the online card catalog to locate materials. Prudently use telecommunications to search and retrieve data remote resources. Identify keywords, with minimal assistance, for searching information sources. Identify and discuss existing knowledge concerning a given information task. Identify and select, with assistance, appropriate sources of information for a specific purpose.
		4.3	Use technology tools (e.g., multimedia authoring, presentation, Web tools, digital cameras, scanners) for individual and collaborative writing, communication, and publishing activities to create knowledge products for audiences inside and outside the classroom.	Have appropriate online behavior, including interacting with other individuals on social networking websites and in chat rooms and cyber bullying awareness and response. Participate in collaborative projects using web-based resources.
		4.4	Use telecommunications efficiently and effectively to access remote information, communicate with others in support of direct and independent learning, and pursue personal interests.	
		4.5	Use telecommunications and online resources (e.g., e-mail, online discussions, Web environments) to participate in collaborative problem-solving activities for the purpose of developing solutions or products for audiences inside and outside the classroom.	

Strand	Competency Standard	ID #	CT 5-8 Computer Technology Performance Standards For Students	Mansfield Technology Goals & Objectives Grades 5-8
5	Technology Research Tools	5.1 5.2 5.3 5.4 5.5 5.6 5.7 5.8 5.9 5.10 5.11 5.12 5.13	<p>Select and use appropriate tools and technology resources, with assistance, to accomplish a variety of tasks and solve problems</p> <p>Use content-specific tools, software and simulations (e.g., environmental probes, graphing calculators, exploratory environments, Web tools) to support learning and research.</p> <p>Design, develop, publish, and present products (e.g., Web pages, videotapes) using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom.</p> <p>Collaborate with others using telecommunications and collaborative tools to investigate curriculum-related problems, issues, and information, and to develop solutions or products for audiences inside and outside the classroom.</p> <p>Use telecommunications and online resources (e.g., e-mail, online discussions, Web environments) to participate in collaborative problem-solving activities for the purpose of developing solutions or products for audiences inside and outside the classroom</p> <p>Use technology resources (e.g., calculators, data collection probes, videos, educational software) for problem-solving, self-directed learning and extended learning activities</p> <p>Determine when technology is useful and select the appropriate tool(s) and technology resources to address a variety of tasks and problems</p> <p>Determine key words and use Boolean logic (when appropriate) to search electronic and Internet-based databases</p> <p>Demonstrate the ability to navigate through a variety of software menus to access information</p> <p>Search, find, sort and evaluate database information from computers, CD-ROM and on-line resources and know how to apply established specific features of different search engines</p> <p>Demonstrate the ability to identify and use a variety of features to locate information using an Internet search engine or directory</p> <p>Develop and apply criteria for evaluating Internet resources</p> <p>Use a variety of technology tools to organize and manipulate data to solve problems</p>	<p>Demonstrate the ability to extract selected information from a wide variety of resources.</p> <p>Demonstrate an understanding of the strengths and weaknesses of various media formats as communication vehicles.</p> <p>Create a simple database to organize information.</p> <p>Open, append, modify and delete records in a database.</p> <p>Sort and print records in a database.</p> <p>Use microcomputer based laboratory programs for data collections (Probes, Palms, etc.)</p> <p>Use advanced functions of spreadsheets.</p> <p>Create a presentation using multimedia software.</p> <p>Use video, audio, and multimedia tools, with assistance, to create clear, and meaningful presentations.</p> <p>Demonstrate beginning research skills using electronic information resources.</p> <p>Analyze and adjust, with assistance, the information search strategy.</p> <p>Follow educational "fair use" guidelines for all types of protected materials.</p> <p>Apply copyright parameters while using and transmitting information.</p> <p>Effectively use an electronic database to locate information.</p> <p>Interpret and organize information using a database and/or spreadsheet.</p> <p>Participate in collaborative projects using web-based resources.</p>

Strand	Competency Standard	ID #	CT 5-8 Computer Technology Performance Standards For Students	Mansfield Technology Goals & Objectives Grades 5-8
6	Technology Problem-Solving and Decision-Making Tools	6.1 6.2 6.3 6.4 6.5 6.6	Apply productivity/ multimedia tools and peripherals to support personal productivity, group collaboration and learning throughout the curriculum. Use technology resources (e.g., calculators, data collection probes, videos, educational software) for problem-solving, self-directed learning and extended learning activities Design, develop, publish, and present products (e.g., Web pages, videotapes) using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom. Demonstrate an understanding of concepts underlying hardware, software and connectivity, and of practical applications to learning and problem solving. Determine when technology is useful and select the appropriate tool(s) and technology resources to address a variety of tasks and problems. Evaluate the accuracy, relevance, appropriateness, comprehensiveness and bias of electronic information sources.	Name and describe the functional of peripheral devices. Recognize the appropriateness of online materials. Evaluate the quantity and quality of information retrieved. Apply more complex criteria for aligning resources with a specific need and presentation.

Evaluation

Ongoing evaluation and monitoring of progress toward goals has become the task of the Technology Steering Committee. The Steering Committee consists of the Superintendent, the Information Technology Director, a preK-4 Principal, the MMS Principal, the MMS Technology Coordinator, the preK-4 Technology Coordinator, the preK-8 Library Coordinator, two MMS Teacher Representative, and a preK-4 Teacher Representative from each school. Two members of the Board of Education sit as ex-officio members of the group. Membership of the Steering Committee is reviewed periodically by the Administrative Council.

The Steering Committee seeks input and shares its minutes with the larger membership of the District Technology Committee, however the full District Technology Committee does not meet regularly. The Steering Committee meets at the call of the Superintendent and Information Technology Director. Members of the Steering Committee have been active participants in other Town committees dealing with technology issues.

The Steering Committee meets monthly (and more often as appropriate) and follows the general pattern outlined in the original plan. Goals and work to be accomplished during the year are identified in the fall and proceed during the year. As part of budget planning, annual reports on progress are presented to the Board of Education and Town Council.

The Steering Committee initiated a review and revision of the entire technology plan during the 2008-09 school year to update local initiatives and comply with the *No Child Left Behind Act*. All aspects of the plan were reviewed by a broad group of stakeholders, including students, parents, staff, board of education, and community members. This review and revision allowed the district to reflect on current successes and establish and sustain a vision for technology consistent with local, state, and national standards. This review is part of a continuous process of evaluation and accountability for the use of educational technology as: a teaching and learning tool, a measurement and analysis tool for student achievement, and a fiscal management tool.

Policy Issues

The committee believes that as the district plan is implemented it will be necessary to maximize student achievement through the development and implementation of effective and efficient policies and procedures.

As equipment and capabilities are added to the district it will be necessary to review existing policy and procedures making modifications as necessary. In order to do this in a timely manner it will be an agenda item for the September meeting of the district technology committee each year. New equipment will be reviewed and policy and procedure issues will be addressed. Dissemination and appropriate instruction will be made by building as needed. Policies will be reviewed during the May meeting for possible revision based on initial implementation.

As stated in the Connecticut Statewide Educational Technology Plan:

“In order to enhance student achievement and improve teacher performance, the policy and procedures related to instructional technology must be explicitly stated. Policy sets forth the tone and direction of the district and clearly delineates that which is appropriate and inappropriate relating to instructional technology. Policy set by the state must allow for some flexibility and decision making at the school site, as recommended by the tenets of site-based management, but uniform policy is necessary to ensure compliance with federal and state law, best practices, and efficiencies of purchasing, instruction, and implementation.”

Federal, state, and local regulations and guidelines will be reviewed, as well as practices of other educational institutions with policy experience in emerging technologies. Upon review of each new policy issue by Mansfield Board of Education counsel, the policy committee of the Board will recommend each new item for Board approval.

The District will educate minors about appropriate online behavior, including interacting with other individuals on social networking websites and in chat rooms and cyber bullying awareness and response.

As new technologies have been introduced, several policy issues have come under review. Some interim policies are in effect as building level directives, but the process of developing policies for Board of Education approval is ongoing and evolving. Since the inception of this plan the Board of Education has reviewed and adopted revised policies concerning Student Use of Technology, Staff Use of Technology, and Copyright. Current copies of the policies may be found in the appendix.

Administrative Applications

The committee acknowledges that efforts should be made to expand the district's use of technology in all areas related to administration. By becoming working partners in the formation of the Town of Mansfield Wide Area Network (WAN), and working toward mutual administrative goals, much progress has been made in the area of Administrative Applications. This progress includes establishing and sustaining:

- Audio and video conference accessible at all four schools including VOIP telephone access.
- Network integrated door access, video surveillance, and staff ID badge security.
- Remote and wireless access to the network.
- Town-wide Email service accessible to users from Outlook or the Internet.
- High speed Internet capability at all schools.
- The Bibliomation Library System at the Public Library and all School Libraries.
- Websites for all schools and the Board of Education.
- Windows operating software and Intel based hardware as the preferred platform for office areas.
- The Microsoft Office suite of programs as the standard for administrative work and office productivity (Microsoft Word, Excel, Access, and Power Point, Outlook and Internet Explorer).
- Connections for all school offices to the Town WAN to provide for all office personal with connections to the Internet, Town Finance Services, Personnel Services, and Special Education IEP Services.
- Pearson administrative software program for student administrative functions at MMS and providing Filemaker Pro databases for preK-4 student information and preK-8 state reporting, physical education data, and reading data.
- Windows 2003 Advanced Server with Active Directory as the file server operating system for Local Area Networks (LANs).
- Voicemail at all four schools.
- Electronic record keeping and cashiering of Food Services.
- A video retrieval/distribution system at MMS.
- Facility scheduling/calendaring software.
- Facility Maintenance System.
- Health services record keeping.
- Electronic collection of students' daily x-block choices at the Middle School.
- Use of databases to support data-driven decision making. For example, these have included Health Office, Progress Reports, PE Databases, AESOP Absence and Substitutes Reporting, IEP Direct, LA Scores Database with electronic submission, and the Student Information Databases.

Our progress to date demonstrates that the changes we have implemented with administrative applications have positively impacted the delivery of educational services to our students, staff, and the larger Mansfield community. We will continue to look for ways that technology can support administrative functions.

Special Education / Support Services / Itinerant and District-wide Staff

Special Education, Support Services, Itinerant and District-wide Staff provide some unique issues that need to be addresses in the following ways:

Mansfield is committed to the delivery of high-level support services for students with special needs, and assistive technology where appropriate. Student services that provide individual technology support will be defined as part of the procedures already in place.

Additionally, as part of ongoing support services there will be a goal of developing a library of assistive technology resources (e.g. switches, alternative keyboards, special needs software) that can be used in a diagnostic/prescriptive process in conjunction with regular instruction.

As a general principle technology resources for these areas will be defined by the district plan but operationalized at each building. It is recognized that since staff and need span different buildings and grade levels, cooperative budget planning among administrative departments will be needed to provide resources.

In areas where student services are delivered in a classroom setting, technology resources and classroom design will follow the general guidelines of the plan, (e.g. a special education resource room will have network services, telephone, and classroom computer).

In areas where support staff provide services in an office setting and/or have an administrative function, technology resources will follow the guidelines for administrative areas, (e.g. a psychologist office will have network services, telephone, access to a computer capable of running administrative software).

When appropriate, itinerant staff will be supported from multiple access points.

Design Guidelines

Data Network Guidelines

- All school building data will support robust virtualized local area networks (LANs).
- There will be a Wide Area Network (WAN) meeting current wiring standards.
- The WAN interconnectivity will be based on fiber optic technology.
- The network administration of all equipment will meet EIA/TIA 606 Wiring Standards.
- Network installation will meet appropriate building and fire codes for the Town of Mansfield.
- The preK-8 LANs will use Windows 2003 Advanced Server operating system or better as available.
- The preK-8 LANs will be constructed to support connection and compatibility with all parts of the Mansfield WAN. Members of the District Technology Committee will work with members of Town agencies to ensure this compatibility.
- The preK-8 LANs will be designed and constructed to provide appropriate security and segregation of instructional uses and administrative uses. Multiple file servers and firewalls may be used to provide this security.
- The Mansfield WAN will provide direct access to the Internet from every connected workstation with appropriate bandwidth to support instructional and administrative uses at each school.
- The preK-8 server infrastructure will leverage virtualization technology to shift from physical hardware to a virtual computing environment.
- The Mansfield WANs and LANs will support layer 3 networking and VLAN technology and at least a gigabit connection between network closets and buildings.
- Wireless access points will support B/G access and will provide coverage to as many classrooms as practical.

Video Network Guidelines

- All schools will have a video distribution network, capable of supporting a central video head end.
- The video head end system will have the capability to distribute video from simultaneous multiple sources such as over-air-broadcasts, cable TV, satellite programming, point-to-point microwave, local VCR input, and signals from an administrative or announcement channel.
- The video head end system should have the capability to take live video input from appropriate spaces in the school and distribute them over the school video network.

Telephone Network Guidelines

- All spaces will be equipped with telephone access.
- Each telephone must provide communication both inside and outside of the building.
- Each telephone must be equipped to handle voicemail.
- Individual school phone systems that integrate district-wide.
- All spaces will have the ability to use a VOIP telephone.

Guidelines for Specific Facility Areas

General Guidelines

All appropriate instructional (classrooms, libraries, computers labs) and support spaces (gymnasiums, cafeterias, workrooms, maintenance and administrative areas) will have the following:

- Telephone wiring
- Video wiring
- Data Wiring for connection to the LANs and WAN.
- Access to networked services (World Wide Web, Email) through the LAN and WAN.
- The ability for VOIP telephone access.

In addition every school will support the following:

- Large group meeting areas in every school that will have access to a portable projection system capable of showing video from the internal video distribution network and computer input to whole school and community groups.
- Large group areas that will also support audio and video recording and have play back equipment.
- An appropriate number (proportional to student population) of portable computing devices (i.e. Alphasmart keyboards or laptop computers) for school and off-site use by staff and students.

B. Classroom Guidelines

A typical classroom space (including special services classrooms and special services support areas) will follow the general guidelines and also provide the following:

- An appropriate number of data jacks to allow for multiple room configurations.
- Access to classroom based printers and networked based printers.
- At the preK-8 level, an average of three Type VI computers or better (as defined by current reporting requirements of the CT SDE Strategic School Profile) with appropriate hardware for network connections and external output of video to serve as student and teacher workstations. At the 5-8 level, the use of minilabs to cluster computers to support reading academy, enrichment, and grade level computer use.
- Easy access to large screen display (overhead projection device with interactive white board) adequate for whole-class viewing with connected VCR or DVD and the ability to display a connected computer screen to a whole class as well as the ability to show video from an internal video distribution network (cable TV, satellite broadcasts, whole school VCR channel, administrative video channel)

C. Computer Lab Guidelines

There will be one networked computer lab in every preK-4 school and four computer labs at MMS. Each computer lab will follow the general guidelines and also provide the following:

- An appropriate number of data jacks to support a lab setting.
- One teacher workstation with the ability to provide whole class presentations through a projection device and SMART Board.
- 20-25 network student workstations.
- Access to network based printers located in the lab.
- Type V computers or better with appropriate network connections.
- A minimum of one flatbed color scanner.
- A minimum of one projection device or large-screen monitor.

D. Library/Media Center Guidelines

There will be a Library/Media Center at each school. The Library Media Centers will conform to the General Guidelines and also have the following capabilities:

- An appropriate number of data jacks in each Library/Media Center to support student and administrative workstations.
- PreK-8 Automated Circulation/Catalog System with Union Catalog and the ability to access catalog and circulation information over the school LAN.
- Access to resources at E.O. Smith, the Mansfield Public Library, and other on-line libraries.
- Community access to appropriate Library/Media Center resources from home.
- Easy access to large screen display (overhead projection device with interactive white board) adequate for whole-class viewing with connected VCR or DVD and the ability to display a connected computer screen to a whole class as well as the ability to show video from an internal video distribution network (cable TV, satellite broadcasts, whole school VCR channel, administrative video channel).
- Access to network based laser and inkjet printers.
- Easy access to video head end equipment.

Additionally, the MMS Library Media center will provide:

- An appropriate number of Type VI student research-based workstations with technology to support information literacy skills.
- Five Type VI student workstations providing access to the online catalog system.
- Five Type VI administrative workstations with appropriate network connections, and stand alone printers for circulation and administrative work.

Additionally, the preK-4 Library Media Centers will provide:

- Two Type VI student workstation providing access to the on-line catalog system.
- One Type VI administrative workstation with appropriate network connections and access to network printing for circulation and administrative work.

E. Administrative/Health

Administrative areas and health offices will follow the general guidelines and also provide the following:

- An appropriate number of data jacks in each space to support administrative workstations.
- Type VI computers with appropriate network connections and the ability to perform local unattended backup of the hard drive or network backup of data.
- Access to networked and stand alone printers as appropriate to the administrative function (i.e. a principal or nurse may need to have a printer right next to each workstation, for printing confidential information, where in office spaces a networked printer could be shared.)
- Access to a fax machine.
- Access to a networked copy machine.

F. Workrooms/Maintenance Offices/Cafeteria

These areas will follow the general guidelines and also provide the following:

- The middle school instructional assistants' workroom will have three to five Type VI workstations with access to stand-alone and network printers. There will be an appropriate number of data jacks to support the equipment.
- Elementary school workrooms will have a minimum of one Type VI workstation with access to stand-alone and network printers.
- Cafeteria and Maintenance Offices will have one Type VI workstation with access to stand-alone and network printers.

Impact on the Environment / Sustainability

The Mansfield Public Schools recognize that we can take proactive steps in the area of Information Technology to reduce our impact on the environment and sustainability. Specifically, we are committed to the following steps:

- Provide audio and video conferencing technology that when appropriate can substitute for physical travel, thereby reducing the carbon emissions from transportation.
- Make use of paperless online instructional resources such as Discovery Streaming, NetTrekker, and Study Island among many others; as well as paperless online instructional tools such as SMART Notebook, Quia, and Zoomerang among many others.
- Use the Verdiem Power Management software to reduce energy use when computer equipment is not in use.
- Purchase Federal Energy-Star EPEAT approved computer equipment. The Federal Energy-Star EPEAT program requires technology manufacturers to meet environmental standards for their products.
- Deploy flat-screen monitors which contribute significantly less bulk waste and consume less energy than CRT monitors
- Operate virtual servers to significantly reduce the number of physical servers running on the network. This action reduces electricity use, air conditioning, and bulk waste generated by server replacement.
- Partner with the Mansfield Facilities Management Department in using computer technology to manage heating systems.
- Partner with the Mansfield Facilities Management Department to dispose of computer technology in an environmentally responsible manner.
- Collect and recycle used toner and ink cartridges for reuse by manufacturers.
- Use of refurbished workstations as opposed to new where appropriate.
- Use of rechargeable batteries where appropriate.

Staff Development

Recent progress has proved staff development is the key piece in the success of this technology plan. A critical element has been the establishment of a District-wide technology goal for all staff by the Board of Education. To successfully implement the student learning objectives and the administrative procedures described in the district plan, administrators, professional staff, secretaries and paraprofessional staff must be provided with training and support materials.

Research studies have shown that technology is successfully integrated into students' learning and administrative practice when the following conditions occur:

- Staff development is ongoing and systematic.
- All staff members are provided with technology training that encourages them to progress from functional technology users to those with advanced levels of proficiency.
- Staff development sessions must provide ample "hands on" opportunities with technology and introduce new technology tools as they become available.
- Staff training workshops are directly linked to curriculum objectives.
- Staff members are kept informed of available resources.
- Staff training is supplemented with lesson modeling and examples of classroom activities.
- Staff training and workshops are followed up with activities that monitor progress and build on initial training.

Technology is a vehicle for all aspects of staff development. Two factors are important to note. First, staff trained in technology are able to use technology in district staff development programs designed to meet district goals. Second, coordination with the University of Connecticut through the Professional Development Centers provides increased opportunities for the use of technology in staff development programs.

Certified staff development continues to be a critical element of the success of this plan. A key piece has been the establishment of a goal in instructional technology by the Board of Education. This has allowed the creation of building level goals and individual professional development goals. With the new state initiatives for continuing education in technology in place for teachers, individual teacher's goals and building goals have been re-focused by the administration to highlight professional development activities that lead to changes in classroom instruction.

The District has continued the traditional efforts of peer coaching, after and before school mini-workshops, development of professional library resources, providing web based help pages, working with curriculum councils on professional development days and providing individual teacher support for special projects. As we move forward with common hardware and software platforms, designing more consistent staff development that is beneficial to staff in several schools at once has become possible. This approach has allowed the sharing of resources between schools, and more opportunities for staff

System Upgrades, Repair, and Equipment Maintenance

The fast pace of technology advancement makes repair and upgrade issues difficult. We have learned that the pace of change often begs the question, "Is the cost of repair or upgrade of older equipment more cost effective than complete replacement?" The increasing importance of file servers and networks services has refocused the issues of maintenance and "good operating order" to include the issues of network performance and operation. We can point to the following areas of progress:

- Establishment of a town-wide Mansfield wide area network team (WAN Team) to coordinate efforts and establish guidelines for network enhancements and workstation, and software specifications. This team also tries to address the "big picture" issues of network management, network upgrades, and security. This team is currently in progress of establishing specifications for the next phase of WAN services.
- Through the participation in the Wan Team we have used the services of outside consultants to design, review, and update LAN/WAN operations at each school.
- We have provided opportunities for staff development in Windows network and workstation operating systems for Technology Coordinators.
- Operating budgets at each school are stable to address maintenance and upgrades.
- A shared person providing network and other technical support to BOE, Town, and E.O. Smith has been added.
- The deployment of virtualization technology greatly enhances the reliability of the infrastructure.
- Given the recent downturn in the economy, the District has experienced a reduction in revenue. This has required a decrease in our technology budget that will cause us to be unable to meet our initial goal of a 5-year replacement cycle for major equipment (replacement of approximately 20% of hardware per year) in both instructional and administrative areas.

Business and Community Links

During the development of the initial district technology plan, efforts were made to include and involve major businesses in Mansfield. The district committee consisted of several representatives from the University of Connecticut, the major employer in our town as well as a representative from AETNA Insurance Company. The committee had a strong belief that district curriculum goals should be used to assist students in realizing the current and future uses of technology in a wide variety of career choices. This committee will be reconsidered during the next two years. Their goals will evolve over the next several years as we implement stages of the district plan enabling students to work more closely with members of the business community.

The district will also work with members of the E.O. Smith High School to review and implement portions of the curriculum developed by the Connecticut State Department of Education. Finally, with the advent of a research park at the University of Connecticut (UCEPI), new opportunities to link with emerging careers and technologies will be pursued.

We have continued to expand links to other community agencies and groups and the business community. These actions have been highlighted by:

- Pursuing donated services and equipment from businesses and individuals.
- Seeking out specific community members with technology expertise for advice on network issues.
- Participating with other UCONN Professional Development Center Schools in sponsoring 5th Year Internships that focus on educational technology.
- Participating with other UCONN Professional Development Centers Schools in electronic and face-to-face discussion groups about course content in educational technology.
- Becoming more aware of area businesses using technology through work on the regional school-to-career activities.
- Becoming a resource for community agencies who provide programming with technology, such as Adult Education, the Recreation Department, and Youth Services.

Resource Allocation Timeline 2008-2014

	Year 13 (08-09)	Year 14 (09-10)	Years 15-18 (11-14)
A. Capital Improvement (Funds from Town Council) Year 1 (96-97): \$100,000 Year 2 (97-98): \$100,000 Year 3 (98-99): \$100,000 Year 4 (99-00): \$100,000 Year 5 (00-01): \$100,000 Year 6 (01-02): \$0 Year 7 (02-03): \$0 Year 8 (03-04): \$25,000 Year 9 (04-05): \$25,000 Year 10 (05-06): \$25,000 Year 11 (06-07): \$0 Year 12: (07-08): \$0 Year 13: (08-09): \$0	PreK-8 (\$0) <ul style="list-style-type: none"> The Capital Improvement contribution to technology has been phased out. The operating budget is now responsible for equipment purchases. 	<u>Anticipated:</u> PreK-8 (\$0) <ul style="list-style-type: none"> The Capital Improvement contribution to technology has been phased out. The operating budget is now responsible for equipment purchases. 	<u>Anticipated:</u> PreK-8 (\$0) <ul style="list-style-type: none"> The Capital Improvement contribution to technology has been phased out. The operating budget is now responsible for equipment purchases.

Resource Allocation Timeline 2008-2014

	Year 13 (08-09)	Year 14 (09-10)	Years 15-18 (11-14)
	<p>PreK-4 Equipment Repair (\$15,000).</p> <ul style="list-style-type: none"> General repairs as needed. <p>PreK-4 Equipment Purchase (\$89,500).</p> <ul style="list-style-type: none"> Continue replacement cycle for network switches and existing team level network printers. Assist in achieving goal of 5-year replacement cycle for existing instructional machines. <p>PreK-4 Media Services (\$20,990).</p> <ul style="list-style-type: none"> Establish overhead projection devices. Audiovisual equipment & supplies. <p>5-8 Equipment Repair (\$16,000).</p> <ul style="list-style-type: none"> General repairs as needed. <p>5-8 Equipment Purchase (\$115,590).</p> <ul style="list-style-type: none"> Replacement cycle for existing network servers and switches. Replacement cycle for existing network and classroom printers. Assist replacement cycle for existing instructional machines. <p>5-8 Media Services (\$23,510).</p> <ul style="list-style-type: none"> Establish overhead projection devices. Audiovisual equipment & supplies. <p>PreK-8 Library Services (\$24,000).</p> <ul style="list-style-type: none"> Sustaining Bibliomation and online resources. 	<p><u>Anticipated:</u> PreK-4 Equipment Repair (\$15,000).</p> <ul style="list-style-type: none"> General repairs as needed. <p>PreK-4 Equipment Purchase (\$52,000).</p> <ul style="list-style-type: none"> Continue replacement cycle for network switches and existing team level network printers. Assist in achieving goal of 5-year replacement cycle for existing instructional machines. <p>PreK-4 Media Services (\$23,740).</p> <ul style="list-style-type: none"> Establish overhead projection devices. Audiovisual equipment & supplies. <p>5-8 Equipment Repair (\$16,000).</p> <ul style="list-style-type: none"> General repairs as needed. <p>5-8 Equipment Purchase (\$68,090).</p> <ul style="list-style-type: none"> Replacement cycle for existing network servers and switches. Replacement cycle for existing network and classroom printers. Assist replacement cycle for existing instructional machines. <p>5-8 Media Services (\$26,260).</p> <ul style="list-style-type: none"> Establish overhead projection devices. Audiovisual equipment & supplies. <p>PreK-8 Library Services (\$24,000).</p> <ul style="list-style-type: none"> Sustaining Bibliomation and online resources. 	<p><u>Anticipated:</u> PreK-4 Equipment Repair (\$15,000).</p> <ul style="list-style-type: none"> General repairs as needed. <p>PreK-4 Equipment Purchase (\$92,000).</p> <ul style="list-style-type: none"> Continue replacement cycle for network switches and existing team level network printers. Assist in achieving goal of 5-year replacement cycle for existing instructional machines. <p>PreK-4 Media Services (\$23,740).</p> <ul style="list-style-type: none"> Establish overhead projection devices. Audiovisual equipment & supplies. <p>5-8 Equipment Repair (\$16,000).</p> <ul style="list-style-type: none"> General repairs as needed. <p>5-8 Equipment Purchase (\$118,090).</p> <ul style="list-style-type: none"> Replacement cycle for existing network servers and switches. Replacement cycle for existing network and classroom printers. Assist replacement cycle for existing instructional machines. <p>5-8 Media Services (\$26,260).</p> <ul style="list-style-type: none"> Establish overhead projection devices. Audiovisual equipment & supplies. <p>PreK-8 Library Services (\$24,000).</p> <ul style="list-style-type: none"> Sustaining Bibliomation and online resources.

Resource Allocation Timeline 2008-2014

	Year 13 (08-09)	Year 14 (09-10)	Years 15-18 (11-14)
C. Outside Resources (Grant Opportunities, Partnerships, Fund Raising)	PreK-8 <ul style="list-style-type: none"> E2T2 21st Century Skills Web 2.0 Grant. Homeland Security Infrastructure Security Grant. State of CT infrastructure grants.* E2T2 Teacher Professional Development Competitive Grants. Universal Service Fund (Federal E-rate Funding). Participation in PTO/PTA Fund Raising Efforts. MMS Magazine Drive. Community Donations of equipment Type VI or better. Participation in the UCONN 5th Year Intern Program. Participation in the CT Education Network (CEN). Seeking out additional opportunities at the state, federal, and private level as they become available. 	<u>Anticipated:</u> PreK-8 <ul style="list-style-type: none"> State of CT infrastructure grants.* E2T2 Teacher Professional Development Competitive Grants. Universal Service Fund (Federal E-rate Funding). Participation in PTO/PTA Fund Raising Efforts. MMS Magazine Drive. Community Donations of equipment Type VI or better. Participation in the UCONN 5th Year Intern Program. Participation in the CT Education Network (CEN). Seeking out additional opportunities at the state, federal, and private level as they become available. 	<u>Anticipated:</u> PreK-8 <ul style="list-style-type: none"> State of CT infrastructure grants.* E2T2 Teacher Professional Development Competitive Grants. Universal Service Fund (Federal E-rate Funding). Participation in PTO/PTA Fund Raising Efforts. MMS Magazine Drive. Community Donations of equipment Type VI or better. Participation in the UCONN 5th Year Intern Program. Participation in the CT Education Network (CEN). Seeking out additional opportunities at the state, federal, and private level as they become available.

(* → Possibilities we're investigating/watching/anticipating)

Resource Allocation Timeline 2008-2014

	Year 13 (08-09)	Year 14 (09-10)	Years 15-18 (11-14)
D. Board of Education Staffing	PreK-4 <ul style="list-style-type: none"> Technology Coordinator 1 Technology Instructional Assistant. 3 Librarian Instructional Assistants 	<u>Anticipated:</u> PreK-4 <ul style="list-style-type: none"> Technology Coordinator 1 Technology Instructional Assistant. 3 Librarian Instructional Assistants 	<u>Anticipated:</u> PreK-4 <ul style="list-style-type: none"> Technology Coordinator 1 Technology Instructional Assistant. 3 Librarian Instructional Assistants
	5-8 <ul style="list-style-type: none"> Technology Coordinator 1 Technology Instructional Assistant 1 Librarian Instructional Assistant 	5-8 <ul style="list-style-type: none"> Technology Coordinator 1 Technology Instructional Assistant 1 Librarian Instructional Assistant 	5-8 <ul style="list-style-type: none"> Technology Coordinator 1 Technology Instructional Assistant 1 Librarian Instructional Assistant
	PreK-8 <ul style="list-style-type: none"> .33 Information Technology Director PreK-8 Library Media Coordinator MLS Librarian (shared position with Mansfield Public Library) 1 Media Instructional Assistant 1 Librarian Processing Instructional Assistant 	PreK-8 <ul style="list-style-type: none"> .33 Information Technology Director PreK-8 Library Media Coordinator MLS Librarian (shared position with Mansfield Public Library) 1 Media Instructional Assistant 1 Librarian Processing Instructional Assistant 	PreK-8 <ul style="list-style-type: none"> .33 Information Technology Director PreK-8 Library Media Coordinator PreK-4 Library Media Specialist MLS Librarian (shared position with Mansfield Public Library) 1 Media Instructional Assistant 1 Librarian Processing Instructional Assistant

(* → Possibilities we're investigating/watching/anticipating)

Resource Allocation Timeline 2008-2014

	Year 13 (08-09)	Year 14 (09-10)	Years 15-18 (11-14)
E. Professional Development	PreK-8 <ul style="list-style-type: none"> • Building administrator support for individual goals as articulated by Professional Staff Development process. • Continued support of teachers participating in E2T2 Workshops and other state/federally sponsored programs. • Participation in regional conferences and workshops • In-house training for after-school sessions, common curriculum and building level in-service days. 	<u>Anticipated:</u> PreK-8 <ul style="list-style-type: none"> • Building administrator support for individual goals as articulated by Professional Staff Development process. • Continued development of a Teacher and Administrator Competency Instrument based on CT Standards. • Continued support of teachers participating in E2T2 Workshops and other state/federally sponsored programs. • Participation in regional conferences and workshops • In-house training for after-school sessions, common curriculum and building level in-service days. 	<u>Anticipated:</u> PreK-8 <ul style="list-style-type: none"> • Building administrator support for individual goals as articulated by Professional Staff Development process. • Continued development of a Teacher and Administrator Competency Instrument based on CT Standards. • Continued support of teachers participating in E2T2 Workshops and other state/federally sponsored programs. • Participation in regional conferences and workshops • In-house training for after-school sessions, common curriculum and building level in-service days.

(* → Possibilities we're investigating/watching/anticipating)

Resource Allocation Timeline 2008-2014

	Year 13 (08-09)	Year 14 (09-10)	Years 15-18 (11-14)
F. Fiscal Services Fund	PreK-8 <ul style="list-style-type: none"> Support for a Level II Technology Support Person (network administration, infrastructure management, advanced repair, troubleshooting, phone support). Internal Staff support for Town-wide systems. (Email, ADMINS, Web Services) 	<u>Anticipated:</u> PreK-8 Continuing as previous years with efforts shaped by data gathered from experience and cooperative problem solving.	<u>Anticipated:</u> PreK-8 Continuing as previous years with efforts shaped by data gathered from experience and cooperative problem solving.

(* → Possibilities we're investigating/watching/anticipating)

Resource Allocation Timeline 2008-2014

	Year 13 (08-09)	Year 14 (09-10)	Years 15-18 (11-14)
G. Other Related Technology Planning Steps/Activities	PreK-8 Evaluation of virtualization technologies including desktop virtualization. Evaluating consolidation of domain structure. Establishing emergency power system.	<u>Anticipated:</u> PreK-8 PreK-8 Building Project* Evaluate solutions for backup.	<u>Anticipated:</u> PreK-8 PreK-8 Building Project*

(* → Possibilities we're investigating/watching/anticipating)